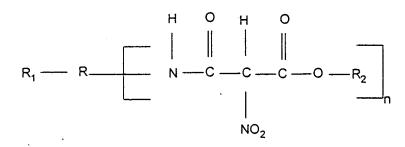
5 We claim:

1. A nitrile oxide precursor compound of the general formula:



Formula I

wherein R is a substituted or unsubstituted C₁₋₁₇ alkyl, alkoxy, cycloalkyl, aromatic or diisocyanate trimer; n is 1-10; R₁ is selected from the group consisting of NCO, CN, H, SO₂Cl, COCl, N(CH₃)₂ C(O)CH₃, C(O)OCH₃, C(O)OC₂H₅, C₆H₅, an acid chloride such as SOCl₂, or another group with reactive functionality, or

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wherein R_2 is branched or unbranched alkyl with 1 to 5 carbon atoms such as ethyl, isopropyl or sec-butyl, and the like; provided that Formula I cannot be derived from p-phenylene diisocyanate.

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A nitrile oxide precursor compound according to Claim 1
 wherein R may be branched or unbranched, substituted or unsubstituted with

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- alkyl, sulfate, sulfonate, alkoxy, CN, NO₂ or an aromatic group. R may be a biphenyl group, fused rings or repeating aromatic groups.
 - 3. A nitrile oxide precursor compound according to Claim 1 wherein R is derived from an aromatic or aliphatic residue of an isocyanate, diisocyanate, polyisocyanate compound or residue of an isocyanate, diisocyanate, or polyisocyanate compound selected from the group consisting of:

H ₃ C+NCO	CI — C – NCO CI — C – C	OCN — (CH ₂) _x —NCO x = (2,3,4,6,8,10,12)
$CH_3(CH_2)_x = NCO$ $\Rightarrow (1.2.3, 4.5, 6.7, 11, 17)$ CH_3	Y ₋ (CH ₂) _x -NCO Y = (Br, Ci) x = (2.3)	CH ₃ OCN_CH ₂ _CH_NCO
CH ₃ H-C-NCO I CH ₃	0 x-ë-nc0 (H ₂ c=c-	OCN CH ₃ CH ₃ NCO CH ₃
сн ₃ сн ₃ -с-нсо сн ₃	$X = \begin{cases} H_{2}C = C - \\ CH_{3} \\ CH_{2}C - \\ CI_{3}C - \\ H_{3}CH_{2}CO - \\ CI - \end{cases}$	СН ₃ OCN_CH ₂ _CH ₂ _CH ₂ _C_CH ₂ _NCO Н
H ₂ C=CH−NCO H ₂ C=CH−CH _{2−NCO}	о н₃сн₂со-ё—сн₂-мсо	сн ₃ сн ₃ _{ОСN} _сн ₂ _сн ₂ _с сн ₂ _с сн ₂ -NCO сн ₃ Н
сн ₃ сн ₃ н ₃ с-с — сн ₂ — с-мсо сн ₃ сн ₃	сн ₃ н о н ₃ с-сн-с-с-осн ₃ исо	сн _з сн _з осм_сн ₂ _сн ₂ _с_сн ₂ _ссн ₂ мсо сн _з сн _з

OCH-CH-CHCH-NCO 5 NCO

wherein in the above structures, n = 2-4, and x and y are chosen so that the molecular weight of the polyneopentyl glycol adipate diisophorone terminated isocyante structure is approximately 1350 and combinations thereof.

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4. A nitrile oxide precursor compound according to Claim 1 wherein R is derived from an aromatic or aliphatic residue of an isocyanate or ciisocyanate compound selected from the group consisting of 4,4'-

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- methylenebis(phenyl isocyanate) ("MDI"); DESMODUR W (hydrogenated MDI); isophorone diisocyanate ("IPDI"), 1-(1-isocyanato-1-methyl ethyl)-3-(1-methyl ethenyl)benzene("m-TMI"), isophorone triisocyanate, isophorone, tetramethylenexylenediisocyanate, ("TMXDI") and mixtures thereof.
- A nitrile oxide precursor compound according to Claim 1
 wherein R is C₃₋₁₇ alkyl.
 - 6. A nitrile oxide precursor compound selected from the group consisting of:

7. A process for the generation of a nitrile oxide compound comprising the steps of

- 5 a) generating a potassium enolate of ethyl nitroacetate in situ;
 - b) isolating said enolate; and
 - c) adding to said isolated enolate an isocyanate, diisocyanate or polyisocyanate, or isofunctional material.
- 10 8. The process of Claim 7 additionally comprising the step of mixing the diisocyanate with a polar solvent prior to adding the diisocyanate to the enolate.
- The process of Claim 8 wherein the polar solvent is selected
 from the group consisting of diglyme, monoglyme, glyme, THF, DMF and DMSO.
- 10. A process for crosslinking a polymer composition comprising adding a nitrile oxide precursor to the polymer solution and heating the mixture to form a nitrile oxide in situ and subsequently crosslink.
 - 11. A process according to Claim 10 wherein the polymer comprises one or more pendant or terminal functional groups selected from the group consisting of alkenes, alkynes, nitriles and isocyanates.

12. A urethane composition which is stable to temperatures below 120°C comprising the nitrile oxide precursor compound of Claim 1.

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- 5 13. A pressure sensitive adhesive, reactive hot melt adhesive, polyurethane dispersion, thermosetting adhesive, thermoplastic adhesive or coating comprising a nitrile oxide precursor compound according to Claim 1.
- 14. An AB copolymer comprising a nitrile oxide precursor compound according to Claim 3, wherein A is the nitrile oxide precursor compound derived from 1-(1-isocyanato-1-methyl ethyl)-3-(1-methyl ethenyl)benzene ("m-TMI") and B is a compound with olefinic functionality.
- 15. A polyurethane reactive hot melt adhesive comprising a nitrile15 oxide precursor compound according to Claim 1.